Appl. No. 10/731,620
Amdt. dated May 8, 2009
Reply to Office Action of December 8, 2008

PATENT

## REMARKS/ARGUMENTS

Claims 1 and 8-16 are pending in this Application.

Claims 1, 8, 10, 11, 14, 16 are currently amended. Claim 9 has been canceled. Applicants respectfully submit that support for the claim amendments can be found throughout the specification and the drawings.

Claims 1, 8, and 10-16 are now pending in the Application after entry of this Amendment. No new matter has been entered.

In the Office Action, claim 14 stands rejected under 35 U.S.C. § 101 as allegedly being directed to non-statutory subject matter. Claim 1 stands rejected under 35 U.S.C. § 112, first paragraph as allegedly failing to comply with the written description requirement. Claim 1 further stands rejected under 35 U.S.C. § 112, second paragraph as allegedly being indefinite. Claims 1, 15, and 16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 7,028,288 (hereinafter "Wall") in view of U.S. Patent Application Publication No. 2004/0249823 (hereinafter "Raghuvir"). Claims 8-14 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Wall.

### Claim Rejections Under 35 U.S. C. § 102(e)

Applicants respectfully traverse the rejections to claims 8-14 and request reconsideration and withdrawal of the rejections under 35 U.S.C. § 102(e) based on Wall. Based on the arguments presented below, Applicants respectfully submit that Wall fails to teach or suggest one or more of the claim limitations recited in each of claims 8-14.

For example, amended claim 8 recites the feature of "automatically applying one or more correctness validation rules using the processor to the instance of the meta metadata object upon creation to confirm that the semantics of the instance of the meta metadata object complies with the one or more correctness type validation rules." As recited, an instance of a meta metadata object is created in response to user specified information defining the meta metadata object. As recited, the meta metadata object is information used to represent a collection of objects representing model classes, an object used to represent a single attribute of an object representing a model class, an object used to represent an association between two

objects representing model classes, or an object used to represent one end of an association

between two objects representing model classes.

As discussed in the Application, systems and methods are provided for

implementing metadata validation. (Application: Paragraph [0019]). Metadata validation is the

validation of metadata in a data repository, such as a database. The subject of metadata

validation is the meta metadata object on which a validation rule is defined. (Application:

Paragraph [0021]. In general, the following terms are used to describe meta metadata objects:

MetaClass, MetaCollection, MetaAttribute, MetaAssociation, MetaAssociationEnd. A

MetaClass is an object used to represent a model class. A MetaCollection is a concept used to

represent a collection of MetaClass objects. A MetaAttribute is an object used to represent a

single attribute of a MetaClass object. A MetaAssociation is an object used to represent an

association between two MetaClass objects. A MetaAssociationEnd is an object used to

represent one end of a MetaAssociation object.

In one example, if a validation rule enforces that all business process names start

with 'BP', then the rule is on the meta metadata object representing an attribute (or

MetaAttribute) for attribute 'name' in class BusinessProcess. As such, a validation rule is defined

on the meta definition for an attribute or the meta metadata object [MetaAttribute]. The

described validation framework invokes an attribute rule only when the attribute is set for a

given object. (Application: Paragraph [0022]).

In various embodiments, the metadata driven validation process implements

several validation types on different validation units. In one aspect, two validation rule types are

provided - correctness and completeness types. The correctness validation rule type ensures that

a validation unit satisfies all semantic rules defined for it. The completeness validation rule type

ensures that a validation unit contains all the necessary data and is ready for further use. In one

aspect, at design time, only correctness type validation is performed. Thus, the present invention

advantageously allows for incomplete objects to be created at design time. The developer,

however, in this case may opt to perform completeness validation at any time. In general, a

developer may opt to perform completeness and/or correctness validation at any time

independent of deployment processing. In another aspect, full validation (e.g., completeness and

correctness) is automatically performed on the objects prior to deployment processing. (Application: Paragraph [0009]).

Applicants respectfully submit that Wall fails to disclose "automatically applying one or more correctness validation rules using the processor to the instance of the meta metadata object upon creation to confirm that the semantics of the instance of the meta metadata object instance complies with the one or more correctness validation rules" as recited in amended claim 8. Specifically, Wall merely provides for the enforcement of <u>data validation</u> associated with input fields by applying input constraints. However, Wall fails to disclose confirming that the semantics of the instance a meta metadata object complies with one or more correctness validation rules as recited in amended claim 8. Wall does not disclose automatically applying correctness validation rules to the four objects of the StringFieldModel class in Wall to confirm that the semantics of an instance of the meta metadata object as recited in amended claim 8 merely that <u>data</u> used to populate the objects may be constrained.

Applicants respectfully submit that Wall further fails to disclose the feature recited in amended claim 8 of "if a user selects via a user interface validation of the instance of the meta metadata object, applying one or more completeness validation rules using the processor to the instance of the meta metadata object to confirm that data associated with the instance of the meta metadata object complies with the one or more completeness validation rules." Wall merely constrains the data in the individual input which is substantially different from confirming via the completeness validation rules recited in amended claim 8 that a validation unit contains all the necessary data and is ready for further use as discussed above. Moreover, the meta metadata objects recited in amended claim 8 are substantially different from the four objects of the StringFieldModel class. As recited, the meta metadata object is information used to represent a collection of objects representing model classes, an object used to represent a single attribute of an object representing a model class, an object used to represent an association between two objects representing model classes, or an object used to represent one end of an association between two objects representing model classes. The four objects of the StringFieldModel class in Wall represent none of these.

Applicants respectfully submit that Wall fails to disclose the feature of "automatically applying both the one or more correctness validation rules and the one or more completeness validation rules using the processor of the computer system to the instance of the meta metadata object prior to deployment of the object instance of the meta metadata object at runtime" as recited in amended claim 8 because simply not allowing predetermined data as the set of only possible choice in Wall does not constitute the application of validation rules to an instance of a meta metadata object as recited in amended claim 8. The validation rule that are applied in claim 8 include correctness rules, which confirm the semantics of the instance rather than the mere predetermined dataset in Wall. Moreover, the Person object in Wall has already been deployed, and is merely being populated with data.

Accordingly, Applicants respectfully submit that Wall fails to disclose or suggest each and every claim limitation as recited in amended claim 8. Applicants respectfully submit that dependent claims 10-13 that depend directly and/or indirectly from independent claim 8, are also allowable for at least a similar rationale as discussed above for the allowability of the independent claims. Applicants further respectfully submit that the dependent claims recite additional features that make the dependent claims allowable for additional reasons.

Unless otherwise specified, amendments to the claims are made for the purposes of clarity, and are not intended to alter the scope of the claims or limit any equivalents thereof.

While Applicants do not necessarily agree with the prior art rejections set forth in the Office Action, these amendments may be made to expedite issuance of the Application. Applicants reserve the right to pursue claims to subject matter similar to those pending before the present Amendment in co-pending or subsequent applications.

## Claim Rejections Under 35 U.S. C. § 103(a)

Applicants respectfully traverse the rejections to claims 1, 15, and 16 and request reconsideration and withdrawal of the rejections under 35 U.S.C. § 103(a) based on Wall in view of Raghuvir. Applicants respectfully submit that Wall fails to disclose each and every claim limitation as recited in claims 1, 15, and 16 for at least a similar rationale as discussed above for the allowability of the claim 8. Applicants further respectfully submit that Raghuvir fails to cure

the deficiencies of Wall. Thus, Applicants respectfully submit that Wall and Raghuvir, either individually or in combination, fails to disclose each and every claim limitation as recited in claims 1, 15, and 16.

## Claim Rejections Under 35 U.S.C. § 101

Applicants respectfully traverse the rejections to claim 14 and request reconsideration and withdrawal of the rejections under 35 U.S.C. § 101. The Office Action merely suggests that the recited means is directed to software per se. While Applicants do not necessarily agree with the allegation, Applicants have amended claim 14 to recites a system "including one or more computer systems executing one or more computer programs" providing the suggested physical article or machine.

## Claim Rejections Under 35 U.S.C. § 112, First Paragraph

Applicants respectfully traverse the rejections to claim 1 and request reconsideration and withdrawal of the rejections under 35 U.S.C. § 112, first paragraph as allegedly failing to comply with the written description requirement. The Office Action merely concludes that the claim limitation of "a validation engine for validating the metadata objects stored in the database by confirming the metadata objects comply with one or more validation rules" was not described in the Specification. Yet, the Office Action provides not support for this conclusion.

However, Applicants will attempt to direct the Examiner's attention to one or more of the many examples supporting Applicants' disclose of the above limitation in the Specification that convey that Applicants had possession of the claim invention. Specifically, FIG. 2 of the Application illustrates a validation engine 25 (a validation engine for validating the metadata objects) for validating the metadata objects stored in database 90 (metadata objects stored in the database ) by confirming the metadata objects comply with one or more validation rules 35. Originally presented claim 3 of the Application, which is now canceled recited "wherein a validation object is a meta metadata object." Thus, the above limitation finds support in the originally presented claims, which are part of the written description. Applicants

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respectfully request clarification and any associated reasoning of why the claimed limitation fails to comply.

## Claim Rejections Under 35 U.S.C. § 112, Second Paragraph

In light of a correction of an error, Applicants respectfully traverse the rejections to claim 1 and request reconsideration and withdrawal of the rejections under 35 U.S.C. § 112, second paragraph.

## CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 925-472-5000.

Respectfully submitted,


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